

OPERATING SUMMARY

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TOWN OF HUNTSVILLE

WATER POLLUTION CONTROL PLANT

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MINISTRY OF THE
ENVIRONMENT

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HUNTSVILLE
WATER POLLUTION CONTROL PLANT

operated for
THE TOWN OF HUNTSVILLE
by the
MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director

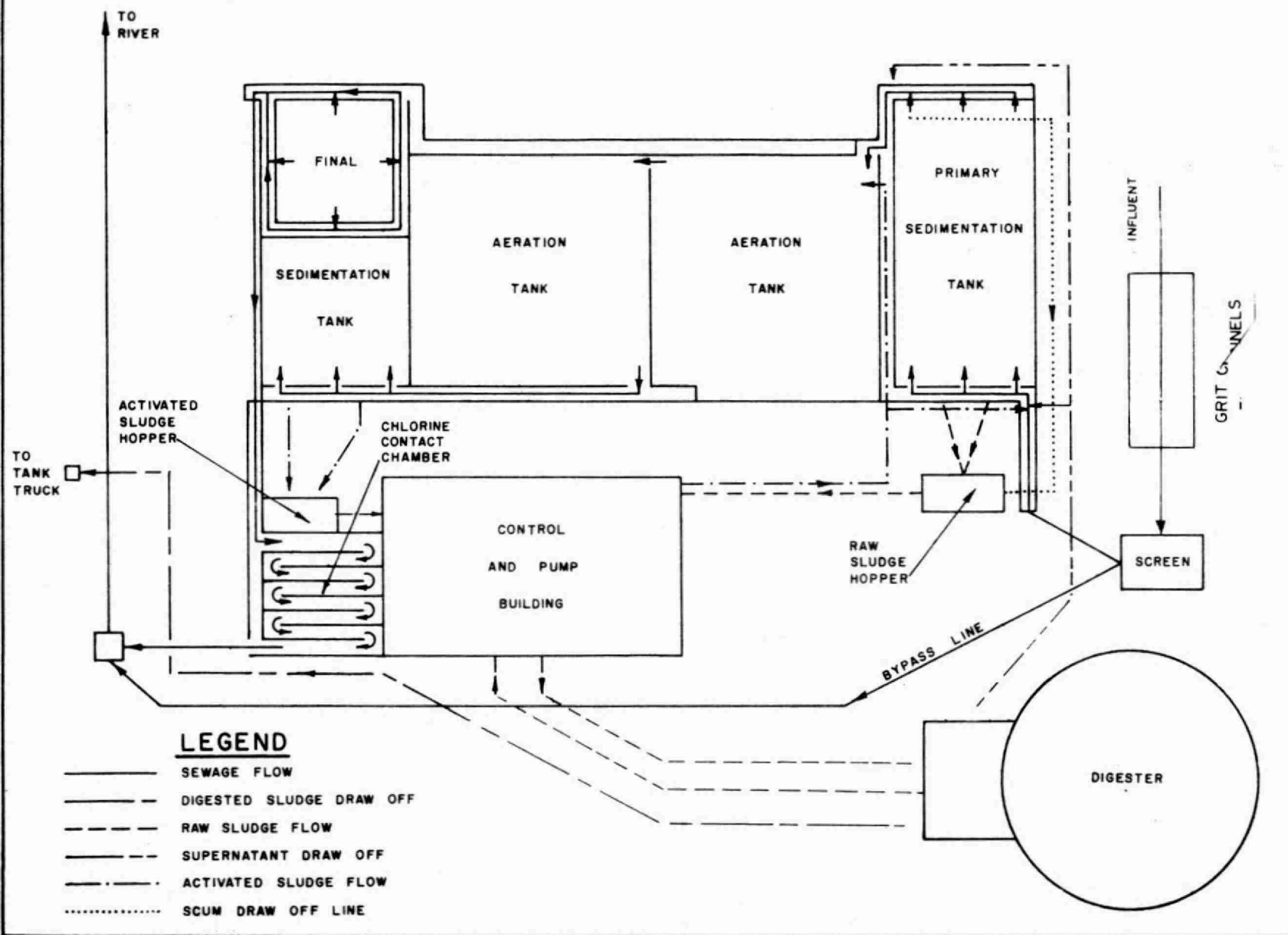
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TOWN OF HUNTSVILLE WPCP



DESIGN DATA

PROJECT Town of Huntsville WPCP

PROJECT NO. 2-0015-58

TREATMENT Activated Sludge

DESIGN FLOW 0.25 mgd

DESIGN POPULATION 3,000

BOD - Raw Sewage 250 mg/l
- Removal 90-95%

SS - Raw Sewage 250 mg/l
- Removal 90-95%

PRIMARY TREATMENT

Grit Removal

Type: Manually cleaned channels
Size: Two 10' x 1'7" x 3'4"
(2 x 52½ cu ft)
Velocity: 0.99 fps

Screening

Type: Manually cleaned bar screen

Primary Sedimentation

Type: United Steel Corp.
Size: One 30' x 10' x 8' (15,000 gal)
Retention: 1.5 hr
Loading: Surface, 833 gal/ft²/day
Weir, 25,000 gal/ft/day

SECONDARY TREATMENT

Aeration Tanks

Type: Mechanical aeration
Size: Two 24' x 24' x 12' (87,500 gal)
Retention: 8.4 hr

Aerators: Chicago Pump (2)

Secondary Sedimentation

Type: United Steel Corp.
Size: One 30' x 13' x 12' (29,300 gal)
Retention: 2.8 hr
Loading: Surface, 640 gal/ft²/day
1 Weir, 5,300 gal/ft/day

CHLORINATION

Type: W & T
Size: One 20 lb/day

Chlorine Contact Chamber

Size: One 12' x 11½' x 10' swd
(6,250 gal)
Retention: 36 min

OUTFALL

- 105' of 15' corrugated pipe to Muskoka River

SLUDGE HANDLING

Digestion System - Single-stage

Type: Mixed by recirculation, Fairbanks-Morse, 100 gpm @ 40' tdh
Size: One 30' dia x 20' swd (15,000 cu ft or 93,500 gal)
Loading: 1.2 lb/cu ft/mo

PUMPING STATIONS

Pumping Station #1

Type: Chicago Pump
Size: Two 290 gpm

Pumping Station #2

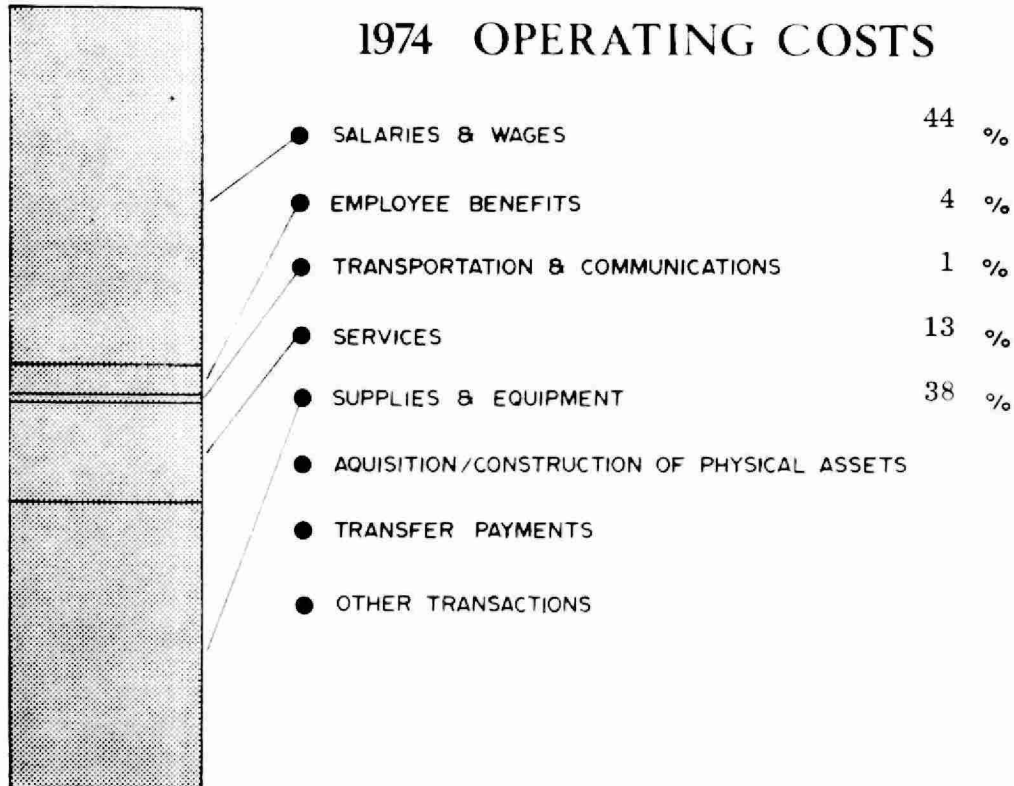
Type: Chicago Pump
Size: Two 80 gpm

Pumping Station #3

Type: Chicago Pump
Size: One 80 gpm

ANNUAL COSTS

1974 OPERATING COSTS



YEARLY OPERATING COSTS

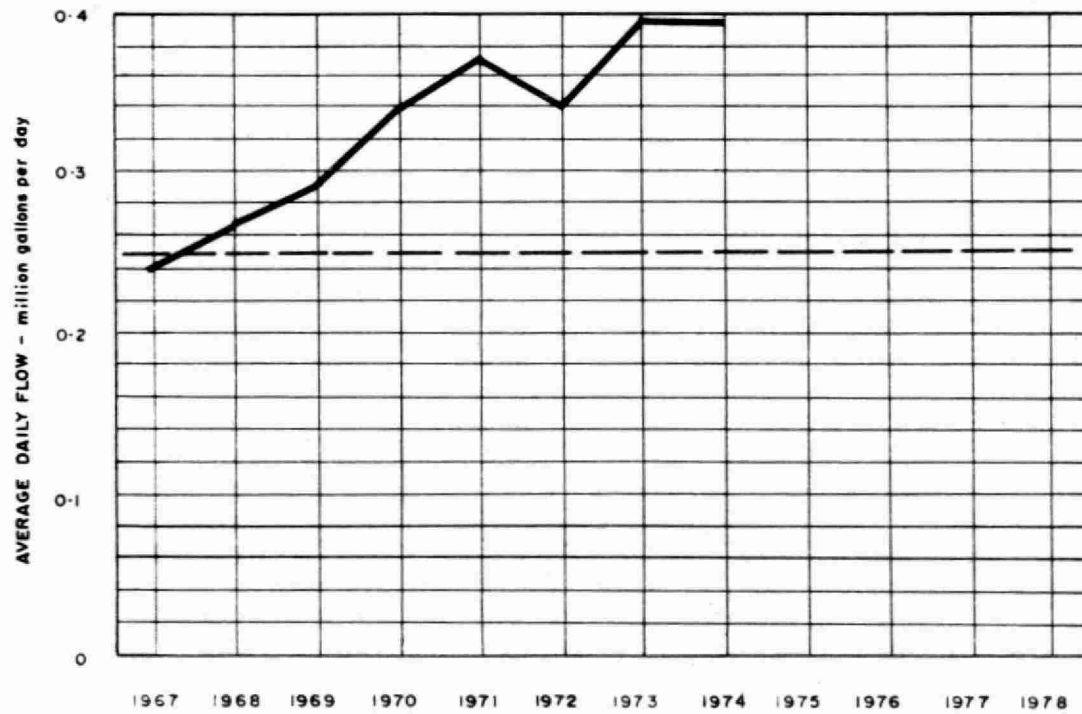
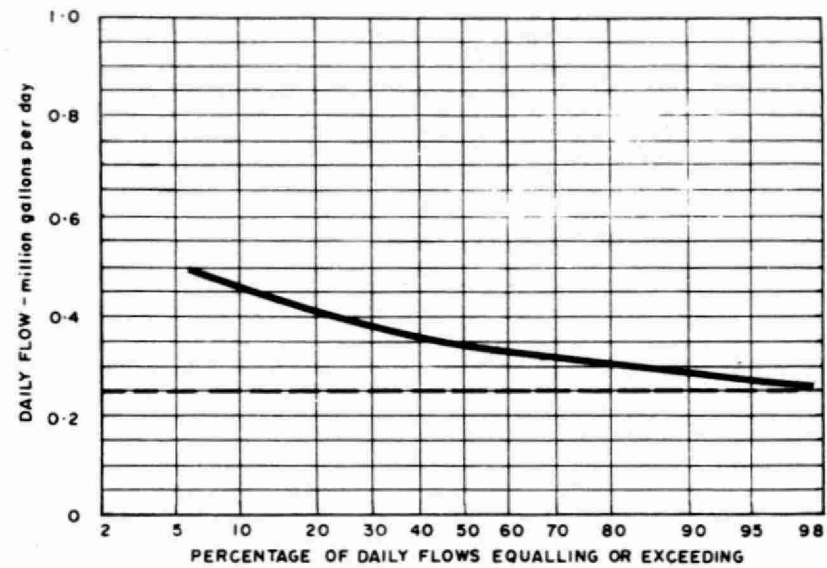
YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M G.	¢/lb BOD
1969	104	14,146	136	10
1970	123	19,268	156	12
1971	135	19,262	142	12
1972	130	33,456	257	23
1973	141	32,128	228	21
1974	143	48,981	340	34

OPERATING EXPENDITURES

Regular Staff	\$ 20,865	\$
Casual (Unclassified) Staff	-	
TOTAL SALARIES AND WAGES		20,865
TOTAL EMPLOYEE BENEFITS		1,897
TOTAL TRANSPORTATION AND COMMUNICATIONS		759
Insurance	687	
Sludge Haulage	3,717	
Repairs and Maintenance	1,671	
Other Services	513	
TOTAL SERVICES		6,588
Machinery and Equipment	5,361	
Chemicals	6,156	
Utilities	4,267	
Other Supplies and Equipment	3,088	
TOTAL SUPPLIES AND EQUIPMENT		18,872
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		
GRAND TOTAL	GRAND TOTAL	\$ 48,981

PROCESS DATA

FLOWS

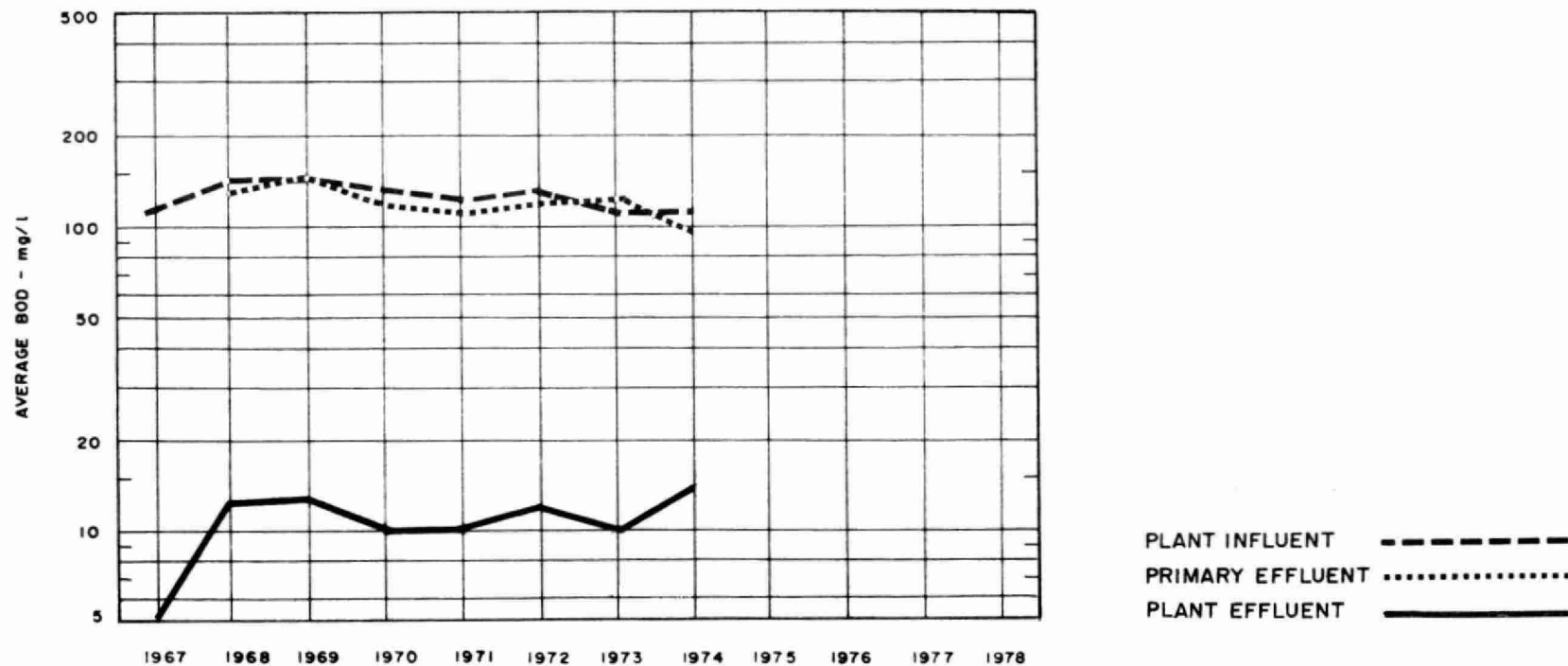
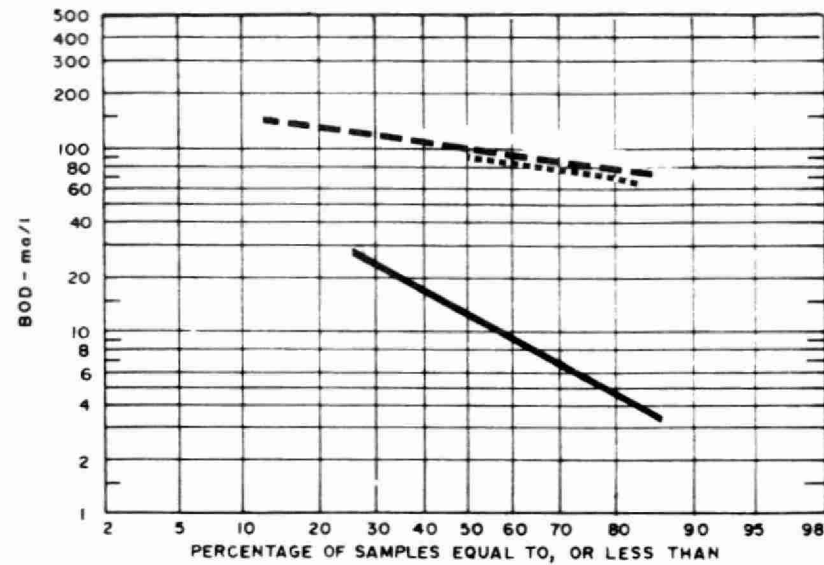


DESIGN CAPACITY - - - - -

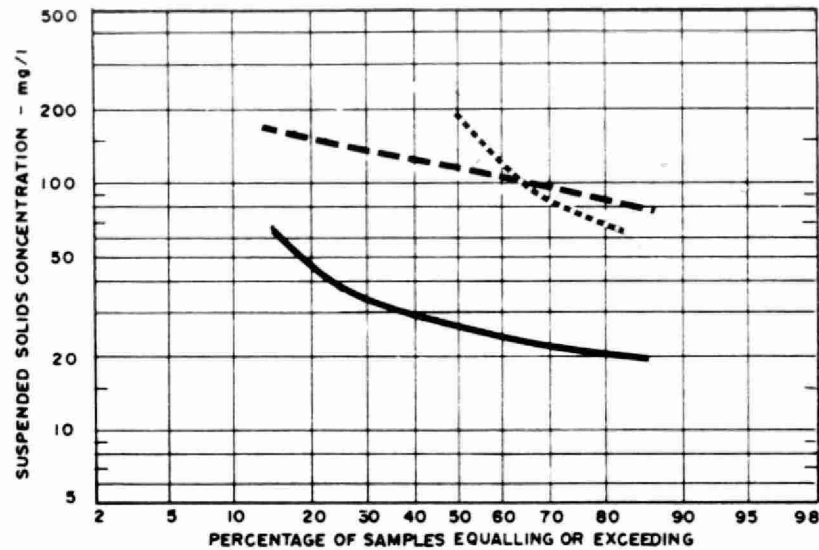
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT
	million gallons	mil. gal	mgd	mg/l	mg/l	%	10 ³ pounds	mg/l	mg/l	%	10 ³ pounds	mg/l P	mg/l P
JAN	11.2	.36	.57	115	17	85	11.0	133	30	77	11.5	6.5	3.0
FEB	9.4	.33	.46	160	8	95	14.2	130	20	85	10.3	6.4	.5
MAR	13.4	.43	.56	100	8	92	12.3	100	20	80	10.7	6.6	.5
APR	14.1	.47	.61	80	30	63	7.0	75	85	-13	-1.4	3.5	1.4
MAY	13.6	.44	.56										
JUNE	10.5	.34	.44	120	7	94	11.9	110	25	77	8.9	5.0	1.1
JULY	11.4	.37	.42										
AUG	13.0	.42	.49										
SEPT	10.8	.36	.52										
OCT	12.0	.39	.49										
NOV	13.4	.45	.56										
DEC	11.1	.36	.52										
TOTAL	143.9	-	-	-	-	-		-	-	-		-	-
AVG.	12.0	.39	MAXIMUM .61	115	15	87	11.9	114	35	69	9.5	5.8	1.6
No. of Samples	-	-	-	6	6	-	-	6	6	-	-	6	6

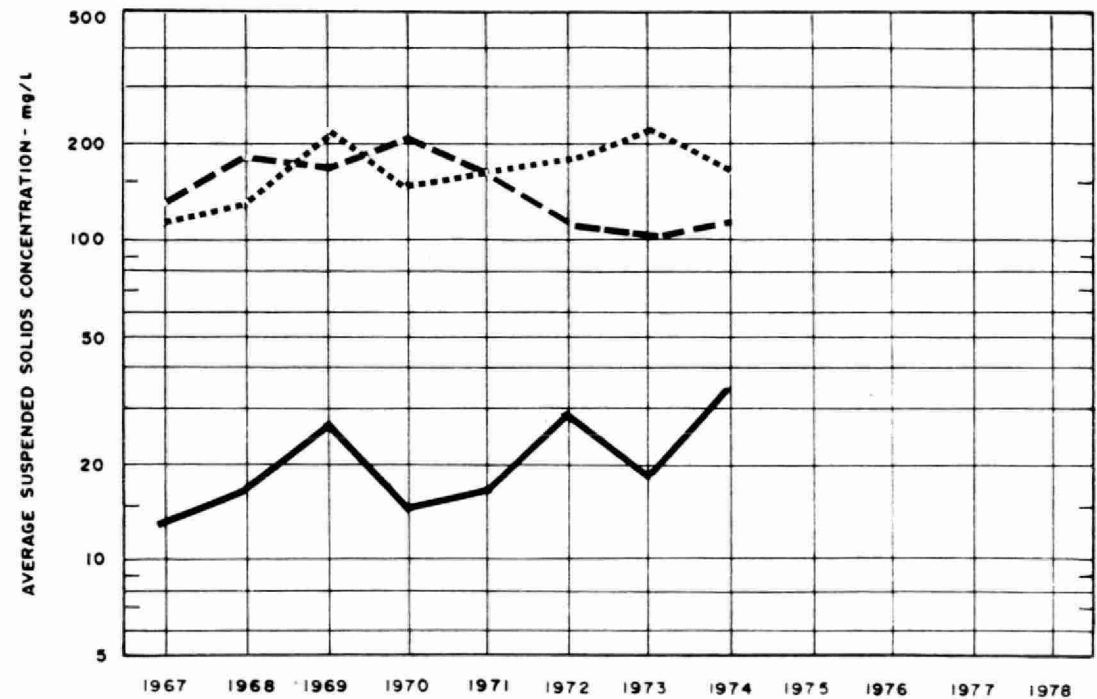
BIOCHEMICAL OXYGEN DEMAND



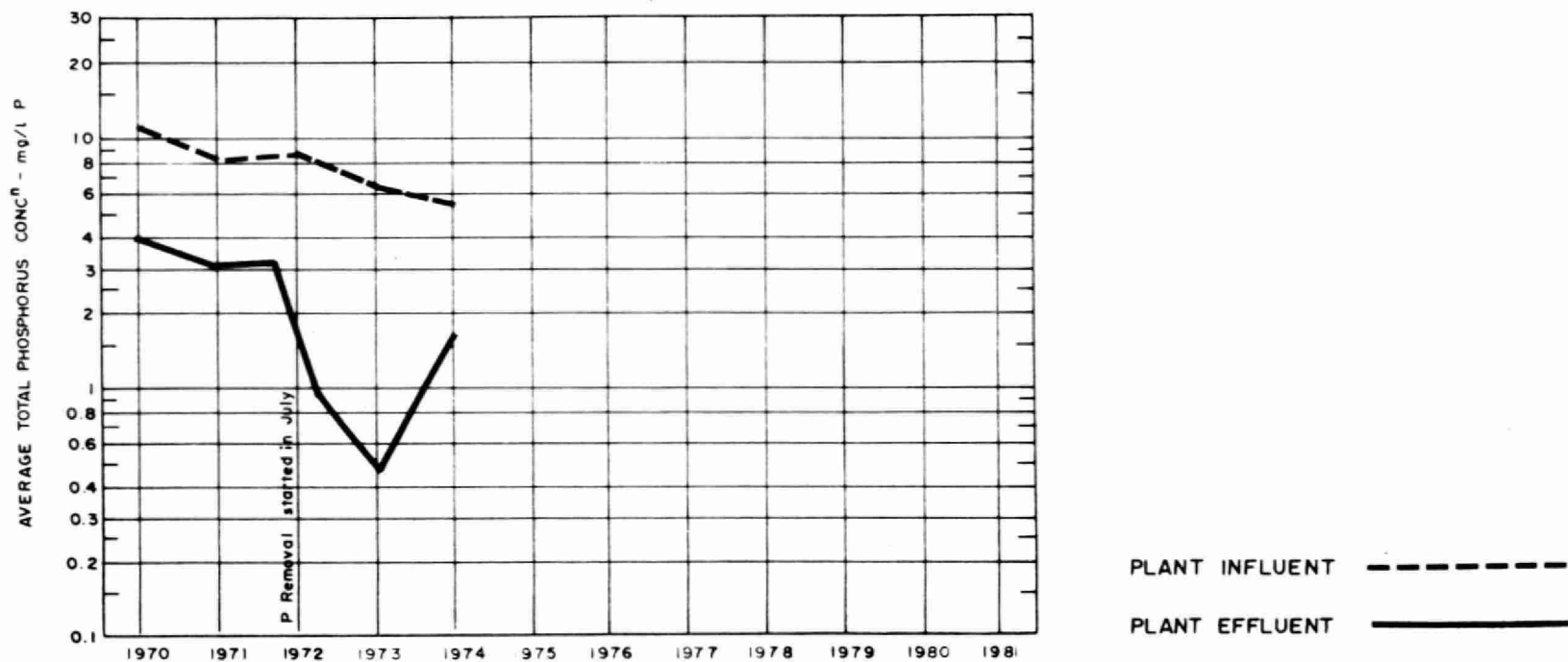
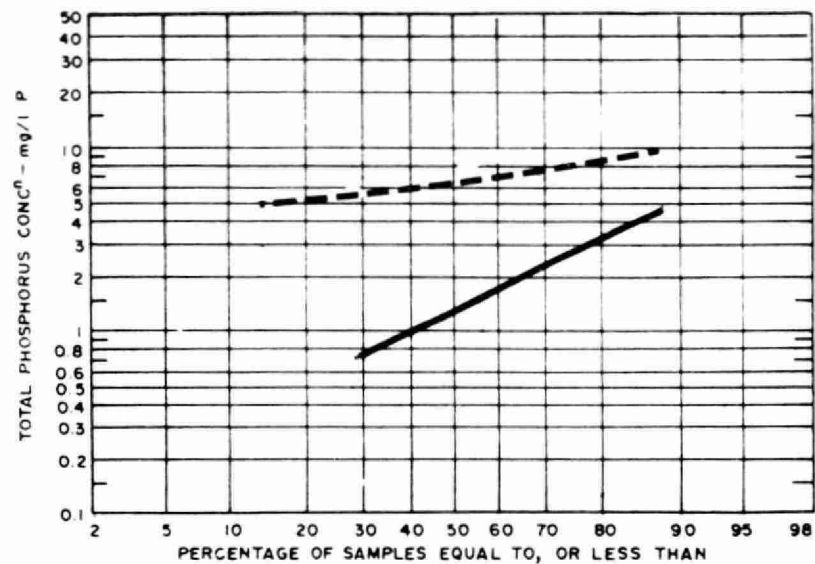
SUSPENDED SOLIDS



PLANT INFLUENT - - - - -
 PRIMARY EFFLUENT
 PLANT EFFLUENT _____

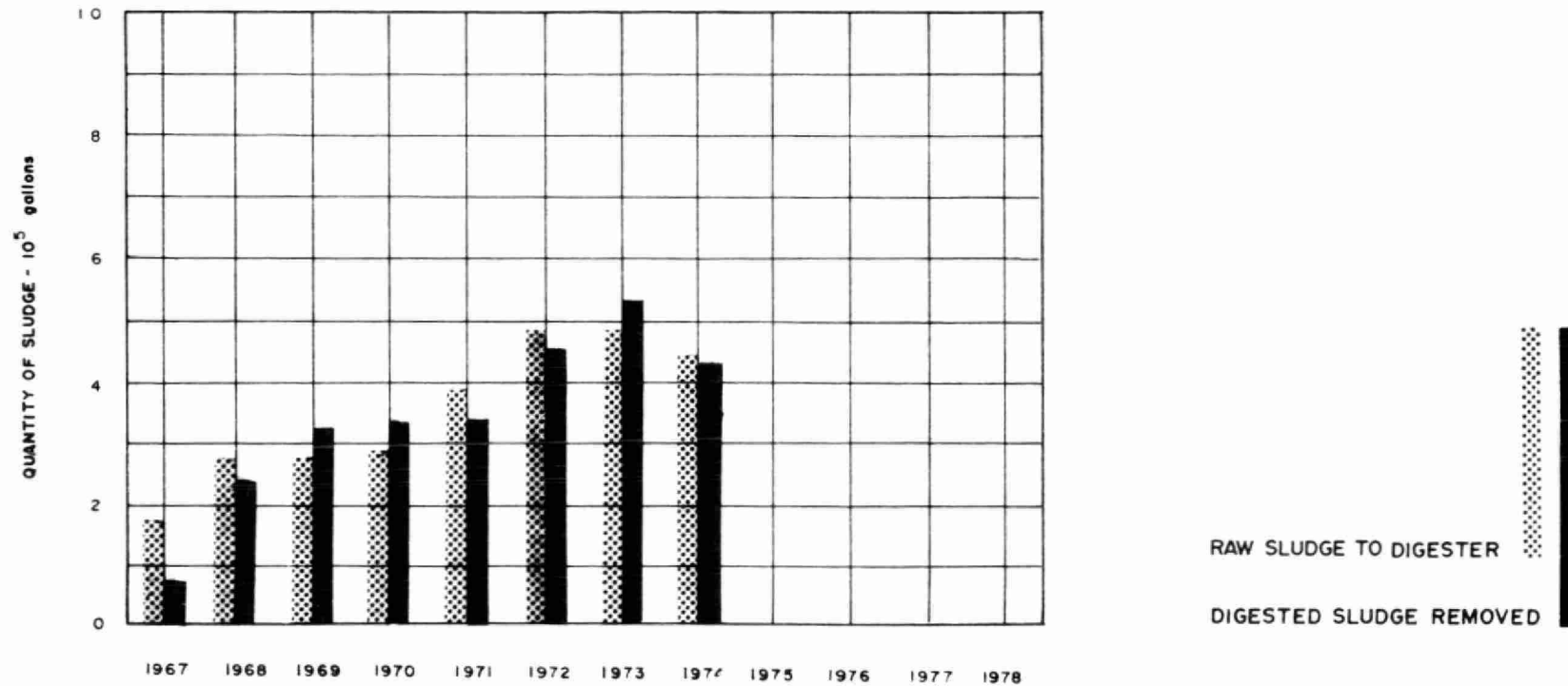
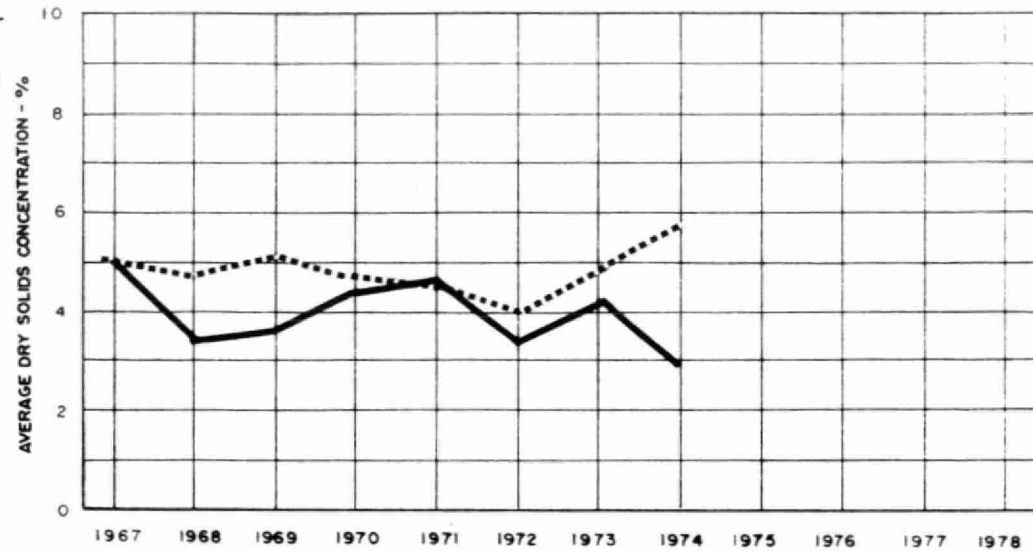


PHOSPHORUS



DIGESTION

RAW SLUDGE
DIGESTED SLUDGE ———



TREATMENT DATA

MONTH	GRIT	CHLORINATION		PRIMARY EFFLUENT		AERATION			SLUDGE DIGESTION and DISPOSAL							
	QUANTITY REMOVED cubic feet	CL ₂ USED pounds	AVG. DOSE mg/l	BOD mg/l	SUSPENDED SOLIDS mg/l	MLSS CONC mg/l	F/M day ⁻¹	AIR 1000 ft ³ lb BOD	RAW SLUDGE			DIGESTED SLUDGE			SUPER- NATANT T. S. %	AMOUNT HAULED cubic yards
									QUANTITY 10 ³ gallons	TOTAL SOLIDS %	VOL. SOLIDS %	QUANTITY 10 ³ gallons	TOTAL SOLIDS %	VOL. SOLIDS %		
JAN	15	370	3.3	115	225	1300	.37		51			53			1.5	312
FEB	11	343	3.7						37	5.9	64	38	2.9	48	.7	228
MAR	10	441	3.3	90	120	2300	.18		48			41			.2	240
APR	85	507	3.6	80	200	1300	.35		30			37			.2	216
MAY	17	497	3.6						30			24				144
JUNE	33	481	4.6	110	90	2100	.20		43			36				216
JULY	38	527	4.6						38			36				216
AUG	107	527	4.1						29			22				132
SEPT	56	381	3.5						31			22				132
OCT	49	415	3.4						31			53				312
NOV	20	439	3.2						22			12				72
DEC	22	329	3.0						33			46				276
TOTAL	463	5257	-	-	-	-	-	-	423	-	-	420	-	-	-	2496
AVG.	3.2 cu. ft/mil gal	438	3.7	99	159	1800	.28		35	5.9	64	35	2.9	48	.5	208

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